Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled data based on original data using

LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P905169

Luminaire Tested: DFN2DIP-HX2F0-030D020US835-RLLONL

Issue Date: 11/21/2024

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Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P905169
	REPORT IS A COMBINATION OF REPORTS P900674 AND P897595
Test Lab:	INNOVATION CENTER
Issue Date:	11/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	NEO-RAY
Catalog Number:	DFN2DIP-HX2F0-030D020US835-RLLONL
Description:	2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	4530.0 lumens
Efficiency:	N/A
Efficacy:	111.9 lumens/watt
Spacing Criteria (0/90/45):	1.2 / 0.99 / 1.16
Luminous Opening:	Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type:	General Diffuse

Input Watts (W):	40.5
Input Voltage (V):	
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.9951
Total Harmonic Distortion (THDi):	0.07
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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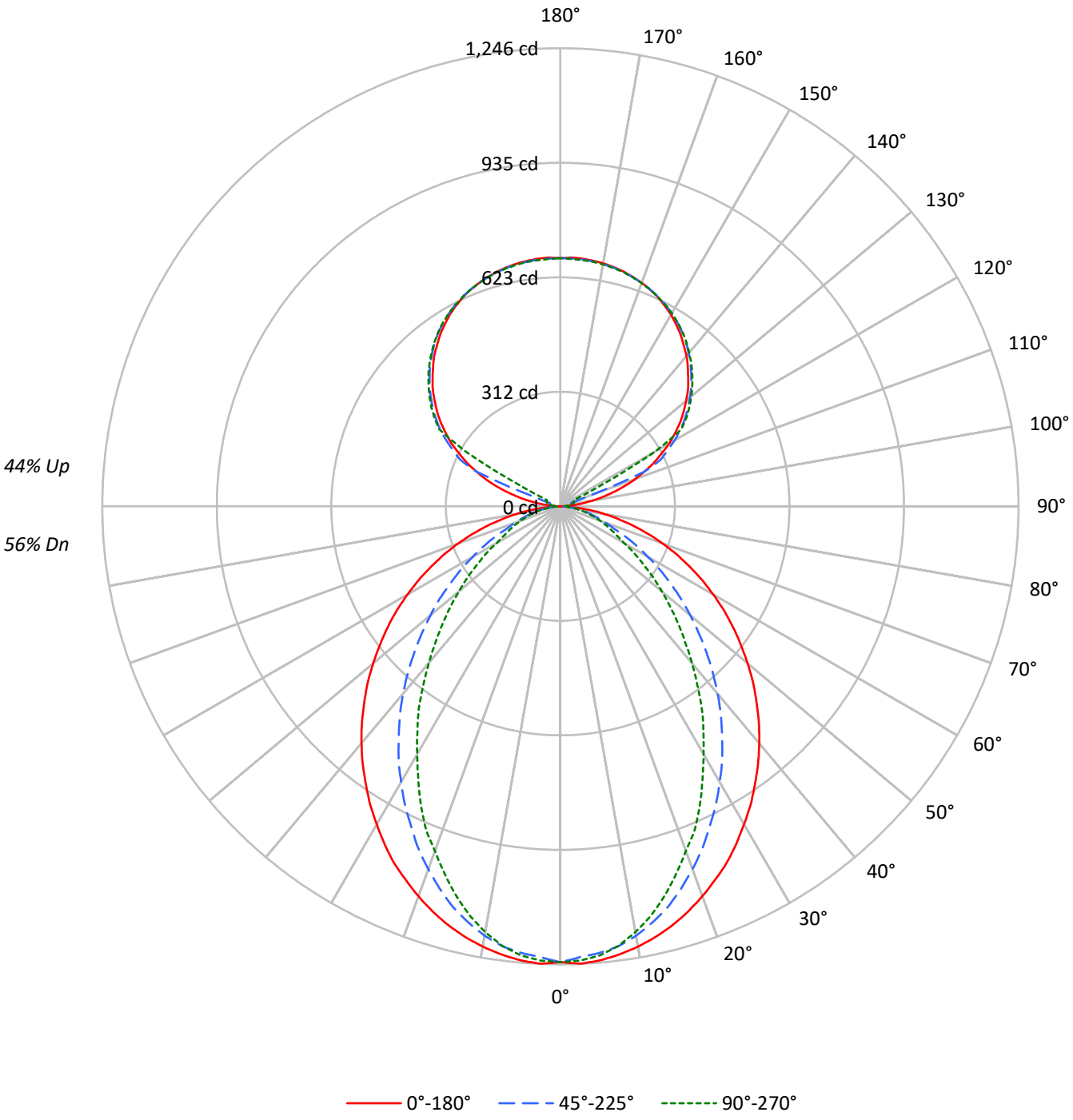
Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20			20			20			20
RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	100	96	92	88	93	89	86	83	77	75	72	66	64	63	56	54	53	49
2	91	84	78	73	85	79	73	69	68	64	61	58	56	53	50	48	46	42
3	84	74	67	62	78	70	63	58	61	56	52	52	49	46	44	42	40	36
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35	31
5	71	59	51	46	66	56	49	43	49	43	39	42	38	35	36	33	31	27
6	65	54	46	40	61	50	43	38	44	39	34	39	34	31	33	30	27	24
7	61	49	41	35	56	46	39	34	40	35	30	35	31	27	30	27	24	22
8	56	44	37	31	52	42	35	30	37	31	27	32	28	25	28	25	22	20
9	53	41	33	28	49	38	32	27	34	28	25	30	25	22	26	23	20	18
10	49	37	30	25	46	35	29	24	31	26	22	28	23	20	24	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2921	2921	2921
5°	2921	2868	2888
10°	2888	2805	2789
15°	2843	2705	2639
20°	2786	2571	2456
25°	2728	2422	2280
30°	2650	2270	2059
35°	2575	2107	1864
40°	2497	1939	1643
45°	2408	1753	1442
50°	2315	1567	1246
55°	2217	1368	1058
60°	2104	1162	866
65°	1974	953	774
70°	1816	758	692
75°	1616	655	619
80°	1331	530	522
85°	870	327	366

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2408 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.2	2.6
10°-20°	319.0	7.0
20°-30°	447.9	9.9
30°-40°	488.2	10.8
40°-50°	448.7	9.9
50°-60°	352.4	7.8
60°-70°	229.4	5.1
70°-80°	118.1	2.6
80°-90°	31.3	0.7
90°-100°	22.3	0.5
100°-110°	83.0	1.8
110°-120°	220.1	4.9
120°-130°	365.0	8.1
130°-140°	387.7	8.6
140°-150°	360.3	8.0
150°-160°	289.7	6.4
160°-170°	186.7	4.1
170°-180°	64.2	1.4
0°-30°	883.1	19.5
0°-40°	1371.3	30.3
0°-60°	2172.4	48.0
0°-90°	2551.2	56.3
90°-120°	325.3	7.2
90°-150°	1438.2	31.7
90°-180°	1979.0	43.7
0°-180°	4530.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1240	1240	1240	1240	1240	
5°	1240	1234	1220	1230	1226	118
15°	1179	1167	1129	1108	1096	332
25°	1070	1034	960	914	898	492
35°	922	865	766	696	671	577
45°	754	679	561	481	454	582
55°	573	486	365	297	276	512
65°	387	296	195	157	154	384
75°	206	128	90	82	81	218
85°	48	25	21	21	21	55
90°	0	6	10	12	13	4
95°	32	16	19	22	21	38
105°	148	163	30	35	37	159
115°	281	289	301	75	40	276
125°	397	403	413	416	418	354
135°	491	499	504	508	508	380
145°	570	570	578	581	579	356
155°	628	623	629	632	628	289
165°	661	658	660	663	660	187
175°	676	673	674	677	672	64
180°	675	675	675	675	675	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	*1239.9*	1239.9	1239.9	1239.9	1239.9
2.5°	*1245.5*	*1239.9*	*1227.5*	*1238.8*	*1236.6*
5°	*1239.9*	1234.3	1219.7	1229.8	1226.4
7.5°	*1229.8*	1223.1	1207.4	1211.8	1206.2
10°	*1216.3*	1208.5	1186.1	1182.6	1176.0
12.5°	*1199.5*	1189.4	1159.1	1152.4	1140.0
15°	*1179.3*	1166.9	1128.8	1107.5	1096.3
17.5°	*1155.7*	1137.8	1090.6	1066.0	1048.0
20°	*1128.8*	1106.3	1050.2	1022.3	997.5
22.5°	*1099.7*	1073.8	1008.7	970.6	953.8
25°	*1070.5*	1034.5	960.5	914.5	897.6
27.5°	*1035.7*	997.5	915.6	862.9	837.0
30°	*998.7*	956.0	866.2	809.1	778.7
32.5°	*962.7*	911.1	819.2	751.8	723.7
35°	*922.4*	865.1	766.4	695.7	671.0
37.5°	*883.1*	821.3	717.0	639.5	611.6
40°	*841.6*	774.3	665.4	585.7	556.6
42.5°	*798.9*	727.2	613.8	530.7	502.7
45°	*754.1*	678.8	561.1	481.3	454.4
47.5°	*711.4*	631.8	510.6	430.8	406.2
50°	*664.3*	584.6	461.2	383.7	360.2
52.5°	*618.2*	534.1	414.1	340.0	318.7
55°	*573.3*	485.8	364.6	297.4	276.1
57.5°	*527.4*	437.6	321.0	258.1	240.1
60°	*480.2*	390.5	274.9	217.7	199.8
62.5°	*434.3*	344.5	235.6	181.8	172.9
65°	*387.1*	296.2	195.2	157.1	153.7
67.5°	*342.3*	251.3	157.1	138.0	134.6
70°	*295.1*	207.6	130.1	118.9	114.4
72.5°	*250.2*	167.1	108.8	99.9	97.6
75°	*206.4*	127.9	89.8	81.9	80.8
77.5°	*162.7*	90.8	70.7	66.2	63.9
80°	*122.3*	65.1	53.8	49.4	49.4
82.5°	*85.2*	43.8	37.0	34.8	34.8
85°	*48.2*	24.6	21.3	21.3	21.3
87.5°	*18.0*	8.9	8.9	7.9	7.9
90°	*0.5*	5.9	9.7	12.2	13.2
92.5°	*12.2*	10.3	11.7	12.7	13.2
95°	*31.7*	15.6	19.0	21.5	21.0
97.5°	*57.1*	17.1	24.9	26.4	26.9
100°	*86.5*	19.5	27.8	31.7	32.7
102.5°	*118.7*	117.7	28.8	34.2	35.7
105°	*148.5*	163.1	29.8	35.1	37.1
107.5°	*183.2*	195.3	30.8	36.1	38.1
110°	*216.4*	226.6	85.5	36.7	38.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	*247.6*	256.4	248.1	37.6	39.1
115°	*280.8*	289.1	301.4	75.2	40.1
117.5°	*309.6*	319.4	327.7	257.9	129.9
120°	*341.9*	349.2	358.0	363.9	297.9
122.5°	*369.2*	377.0	386.8	389.7	390.3
125°	*397.1*	403.4	412.7	416.1	417.6
127.5°	*422.5*	429.3	436.7	441.5	442.0
130°	*446.4*	454.2	459.6	465.0	464.5
132.5°	*470.8*	477.2	482.5	486.9	486.5
135°	*491.4*	499.2	503.5	508.5	507.5
137.5°	*512.8*	518.7	523.6	528.5	527.0
140°	*533.8*	537.8	543.1	547.5	545.1
142.5°	*551.4*	554.9	561.2	565.1	562.6
145°	*570.0*	569.5	577.8	581.2	578.8
147.5°	*586.1*	584.6	592.9	595.3	593.4
150°	*601.7*	598.3	606.1	609.0	606.6
152.5°	*614.9*	611.0	618.3	621.3	617.8
155°	*627.6*	623.2	629.1	632.0	628.1
157.5°	*637.9*	634.0	638.4	641.8	637.9
160°	*646.7*	643.7	646.7	649.6	646.2
162.5°	*654.4*	651.5	654.0	657.4	653.0
165°	*661.3*	658.4	659.8	663.3	659.8
167.5°	*666.7*	663.7	665.2	668.7	664.2
170°	*671.1*	668.1	669.1	672.5	668.1
172.5°	*674.0*	671.1	672.1	675.5	671.1
175°	*676.4*	673.0	674.0	677.4	672.5
177.5°	*677.4*	674.0	674.5	677.9	673.5
180°	*675.0*	675.0	675.0	675.0	675.0

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CIE UGR TABLE:

Reflectances:											
	Ceiling	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
	Wall	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
	Reference plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	11.31	12.19	12.21	13.11	14.29	7.29	8.17	8.20	9.09	10.28
	3H	12.96	13.75	13.88	14.68	15.89	8.46	9.25	9.38	10.19	11.39
	4H	13.56	14.30	14.49	15.24	16.45	8.90	9.65	9.84	10.59	11.80
	6H	13.96	14.65	14.91	15.59	16.82	9.21	9.90	10.16	10.84	12.07
	8H	14.08	14.73	15.03	15.69	16.92	9.30	9.95	10.25	10.91	12.14
	12H	14.13	14.75	15.09	15.71	16.96	9.34	9.96	10.29	10.91	12.16
4H	2H	11.33	12.07	12.27	13.01	14.22	7.88	8.62	8.82	9.56	10.77
	3H	13.13	13.75	14.08	14.72	15.95	9.21	9.83	10.16	10.80	12.03
	4H	13.81	14.37	14.77	15.33	16.59	9.75	10.31	10.71	11.27	12.53
	6H	14.30	14.79	15.27	15.77	17.03	10.15	10.64	11.12	11.62	12.88
	8H	14.46	14.92	15.44	15.90	17.16	10.27	10.73	11.25	11.70	12.97
	12H	14.55	14.96	15.54	15.95	17.22	10.33	10.74	11.32	11.73	13.01
8H	4H	13.77	14.23	14.75	15.21	16.47	10.02	10.47	10.99	11.45	12.72
	6H	14.32	14.69	15.31	15.71	16.98	10.51	10.89	11.51	11.91	13.17
	8H	14.52	14.85	15.52	15.85	17.14	10.69	11.02	11.70	12.03	13.31
	12H	14.64	14.93	15.65	15.93	17.26	10.80	11.09	11.81	12.09	13.42
12H	4H	13.73	14.14	14.72	15.13	16.40	10.02	10.43	11.01	11.42	12.70
	6H	14.29	14.62	15.30	15.63	16.91	10.56	10.89	11.56	11.90	13.18
	8H	14.49	14.79	15.51	15.79	17.12	10.75	11.04	11.76	12.05	13.38

END OF REPORT